

CLAIMS

What is claimed is:

- 5 1. A method in a communication system for providing multiple wireless communication services having different bit rates, the method comprising:
receiving one or more first data streams, each having a first information bit rate;
receiving one or more second data streams, each having a second information bit rate that is higher than the first information bit rate;
10 encoding the one or more first data streams using code division multiple access (CDMA), resulting in one or more spread data streams;
multiplexing each of the one or more second data streams and the one or more spread data streams, resulting in one or more multiplexed data streams;
frequency modulating the one or more multiplexed data streams, resulting in a
15 modulated data stream; and
transmitting the modulated data stream at a first power level.
2. The method as claimed in claim 1, wherein multiplexing comprises multiplexing at least one of the one or more spread data streams into a same timeslot as at
20 least one of the one or more second data streams, and frequency modulating comprises modulating the at least one of the one or more spread data streams into a different frequency as the at least one of the one or more second data streams.
3. The method as claimed in claim 1, wherein multiplexing comprises
25 multiplexing at least one of the one or more spread data streams into a different timeslot as at least one of the one or more second data streams, and frequency modulating comprises modulating the at least one of the one or more spread data streams into a same frequency as the at least one of the one or more second data streams.
- 30 4. The method as claimed in claim 1, wherein the one or more first data

streams and the one or more second data streams have a common transmission bit rate, resulting in differences in link margin for the one or more first data streams and the one or more second data streams.

5 5. The method as claimed in claim 1, wherein receiving the one or more first data streams comprises receiving one or more paging data streams.

6. The method as claimed in claim 1, wherein receiving the one or more second data streams comprises receiving one or more voice data streams.

10

7. The method as claimed in claim 1, wherein encoding the one or more first data streams comprises encoding multiple streams of the one or more first data streams together within a same frequency band.

15 8. The method as claimed in claim 1, wherein encoding the one or more first data streams comprises encoding using a chip rate that results in a higher link margin than a link margin for the one or more second data streams.

20 9. The method as claimed in claim 8, wherein the chip rate is determined by a user of the communication system.

10. A method in a communication system for providing multiple wireless communication services having different bit rates, the method comprising:

receiving a modulated data stream;

frequency demodulating the modulated data stream, resulting in one or more multiplexed data streams;

demultiplexing the one or more multiplexed data streams, resulting in one or more non-spread data streams and one or more spread data streams, wherein the one or more non-spread data streams have a first bit rate;

decoding the one or more spread data streams using code division multiple access (CDMA), resulting in one or more decoded data streams, wherein the one or more decoded data streams have a second bit rate that is lower than the first bit rate; and

processing the one or more non-spread data streams and the one or more decoded data streams.

11. The method as claimed in claim 10, wherein frequency demodulating comprises demodulating at least one of the one or more spread data streams out of a different frequency from at least one of the one or more non-spread data streams, and demultiplexing comprises demultiplexing at least one of the one or more spread data streams out of a same timeslot as at least one of the one or more non-spread data streams.

12. The method as claimed in claim 10, wherein frequency demodulating comprises demodulating at least one of the one or more spread data streams out of a same frequency as at least one of the one or more non-spread data streams, and demultiplexing comprises demultiplexing at least one of the one or more spread data streams out of a different timeslot from at least one of the one or more non-spread data streams.

13. The method as claimed in claim 10, wherein decoding comprises decoding multiple streams of the one or more decoded data streams out of a same frequency band.

14. The method as claimed in claim 10, wherein decoding comprises decoding

using a chip rate that results in a higher link margin for the one or more decoded data streams than a link margin for the one or more non-spread data streams.

15 15. The method as claimed in claim 14, wherein the chip rate is determined by a user of the communication system.

Sub P1

~~16. An apparatus that provides multiple wireless communication services having different bit rates, the apparatus comprising:~~

~~an encoder, which code division multiple access (CDMA) encodes one or more first data streams, resulting in one or more spread data streams, wherein the one or more first data streams each have a first bit rate;~~

~~a multiplexer, coupled to the encoder, which multiplexes the one or more spread data streams and one or more second data streams, resulting in one or more multiplexed streams, wherein each of the one or more second data streams has a second bit rate that is~~

15 ~~higher than the first bit rate; and~~

~~a modulator, coupled to the multiplexer, which frequency modulates the one or more multiplexed data streams, resulting in a modulated data stream.~~

20 17. The apparatus as claimed in claim 16, further comprising:

 a data storage device, coupled to the multiplexer, which stores allocation information indicating to which timeslot each of the one or more spread data streams and the one or more second data streams is allocated.

25 18. The apparatus as claimed in claim 16, wherein the encoder encodes multiple streams of the one or more first data streams together within a same spread data stream.

30 ~~19. An apparatus that provides multiple wireless communication services having different bit rates, the apparatus comprising:~~

 a demodulator, which frequency demodulates a modulated data stream, resulting

in one or more multiplexed data streams;

5 a demultiplexer, coupled to the demodulator, which demultiplexes the one or more multiplexed data streams, resulting in one or more non-spread data streams and one or more spread data streams, wherein the one or more non-spread data streams have a first bit rate; and

a decoder, responsive to the one or more spread data streams, which decodes the one or more spread data streams using code division multiple access (CDMA), resulting in one or more first data streams, wherein the one or more first data streams have a second bit rate that is lower than the first bit rate.

10

20. The apparatus as claimed in claim 19, further comprising:

a voice processor;

15 a parser, coupled to the demodulator, which sends one or more spread data streams to the decoder, and which sends one or more non-spread data streams to the voice processor; and

a data storage device, coupled to the parser, which stores allocation information indicating to which timeslot each of the one or more spread data streams and the one or more non-spread data streams is allocated.

20

21. The apparatus as claimed in claim 19, wherein the decoder decodes multiple streams of the one or more first data streams out of a same spread data stream.